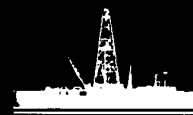


NEWS RELEASE

Ocean Drilling Program



For information:

Karen Riedel
Ocean Drilling Program
Texas A&M University
College Station, TX 77840
(409) 845-9322

February 18, 1986

Leg 107.2

COLLEGE STATION, Texas -- An international team of 22 scientists arrived today in Marseilles, France, after spending 50 days at sea investigating how a land mass is torn in two and a new oceanic basin formed.

The drill ship JOIDES Resolution drilled 11 holes into the seafloor of the triangular Tyrrhenian Sea, which is bounded by the toe and instep of Italy and the islands of Sicily, Sardinia and Corsica. The ship drilled in water depths between 2,000 to 3,000 meters (6,600 to 11,550 feet) and penetrated more than 3,500 meters (more than two miles) of sediment and rock.

Results from the recovered cores of rock and sediment show that the Tyrrhenian Basin is relatively young in geologic time. Because of the basin's young age, it is conceivable that early man or his immediate ancestors may have witnessed a large part of its evolution.

The scientists on board discovered that in the sequence of geologic events, the land which now forms the toe of Italy was connected to a larger land mass which also included Sicily, Sardinia and Corsica. About 8.8 million years ago, in response

-more

add one

to enormous stresses in the earth, the land mass began to stretch, then crack and sink. Sicily and the toe of Italy began to gradually pull away from Sardinia. At this time, the future African rift valley, where the human race is believed to have originated.

Over the next three million years, the continent continued to pull apart and sink, forming a small, shallow bay in the middle of the stretched area.

About 5.5 million years ago, the narrow seaway which connected the Mediterranean Sea to the Atlantic Ocean closed. Cut off from its main source of water, the Mediterranean dried up except for a few small salty lakes similar to the Dead Sea.

While the Mediterranean was a desert, the stretching, cracking and sinking of the continent continued, forming a deep basin between the drifting land masses. After about 500,000 years of desert-like climate, the passageway to the Atlantic Ocean reopened. When the ocean flooded back into the region, the deep Tyrrhenian basin became a real sea.

As the continent continued to stretch and sink, it finally became so thin and weak in the middle that molten material deep in the earth pushed its way up to the surface, forming volcanic rocks in the basin's center.

The geological processes that shaped the Tyrrhenian basin are still active today. The same forces which ripped the toe of Italy away from Sardinia are indirectly responsible for the series of earthquakes and volcanos such as Etna and Vesuvius

-more-

add two

which dot the coastline of Italy. Scientists now believe that if the same processes continue, the tip of Italy will continue to move southeast, eventually colliding with Greece.

Co-chief scientists for the cruise were Dr. Kim Kastens of Lamont-Doherty Geological Observatory, Columbia University, and Dr. Jean Mascle, Universite Pierre et Marie Curie, Villefranche sur Mer, France. Dr. Christian Auroux of Texas A&M University was the staff scientist representative.

The Ocean Drilling Program (ODP) is an international project funded by the United States National Science Foundation, Canada, France, Japan, United Kingdom and West Germany.

JOIDES Resolution is a 470-foot-long drill ship with a derrick that towers 200 feet above the waterline. The heart of the floating research center is a seven-story laboratory stack which provides space and equipment for onboard examination of sediment and hard-rock cores. Studies include chemical, gas and physical properties, paleontology, petrology, paleomagnetism and sedimentology. Marine geophysics research is conducted while the ship is under way.

Texas A&M, as science operator, operates and staffs the drill ship and retrieves cores from strategic sites around the world. The science operator also ensures that adequate scientific analyses are performed on the cores. To do this, Texas A&M maintains shipboard scientific labs, provides logistical and technical support for shipboard scientific teams, manages post-cruise activities, is curator for the cores and distributes samples, and coordinates the editing and publishing.

add three

of the scientific results.

Lamont-Doherty Geological Observatory of Columbia University is responsible for downhole logging.

Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), an international group of scientists, provides overall planning and program advice. Joint Oceanographic Institutions (JOI, Inc.), a nonprofit organization of 10 major U. S. oceanographic institutions, manages the program.

Other cruises scheduled this spring include drilling off the northwest coast of Africa and a return trip to the Mid-Atlantic Ridge, announced Dr. Philip D. Rabinowitz, director of ODP.

-30-

(NOTE: JOIDES institutions are the University of California, Columbia University, University of Hawaii, University of Miami, Oregon State University, University of Rhode Island, Texas A&M University, University of Texas, University of Washington and Woods Hole Oceanographic Institution.

Non-U. S. members are the Department of Energy, Mines and Resources, Earth Sciences Sector, Canada; Bundesanstalt fur Geowissenschaften und Rohstoffe, Federal Republic of Germany; Institut Francais de Recherche pour l'Exploitation de la Mer (IFREMER), France; University of Tokyo, Ocean Research Institute, Japan; and Natural Environment Research Council, United Kingdom.)

Scientists were: Co-chief scientists Kim Kastens, Columbia University and Jean Mascle, Universite Pierre et Marie Curie, France; Christian Aurox, staff scientist, Texas A&M University; Enrico Bonatti, Columbia University; Christina Broglia, Columbia University; James Channell, University of Florida; Pietro Curzi, Istituto di Geologia Marina, Italy; Kay Christian Emeis, Texas A&M University; Georgette Glacon, Universite Pierre et Marie Curie, France; Shiro Hasegawa, Tohoku University, Japan; Werner Hieke, Abt. Sedimentforschung und Meeresgeologie Technische Universitat Munchen, Federal Republic of Germany; Georges Mascle, Universite de Grenoble, France; Floyd McCoy, Columbia University; Judith McKenzie, University of Florida; James Mendelson, Massachusetts Institute of Technology; Prasanta Mukhopadhyay, University of Texas; Carla Muller, Universitat Frankfurt, Federal Republic of Germany; Jean-Pierre Rehault, Universite Pierre et Marie Curie, France; Alstair Robertson, Grant Institute, Scotland; Renzo Sartori, Istituto di Geologia Marina, Italy; Rodolfo Sprovieri, Istituto di Geologia, Italy; and Masayuki Torii, Kyoto University, Japan.